

ABSTRACT

A digital electronic camera is hermetically sealed in a housing, typically inexpensive clear plastic. Digital electrical signals for downloading image information from the camera are converted to radio or, more preferably, infrared optical signals. These signals are communicated through the radiation-transparent housing to an external radio transceiver or infrared adapter connected to a personal computer. The bi-directional pc-to-camera communication is typically completely opaque to the picture-capturing pc and to its operating software. Electrical operation of the digital camera's shutter circuit is through the sealed housing by manually moving a magnet relative to an internal sensor, typically a Hall-effect sensor or a reed switch. Recharging a power source -- normally a battery -- for the digital camera and all associated circuitry within the sealed housing transpires by inductively inducing an alternating current in an coil internal to the housing, with subsequent rectification and conditioning of this current. The entire housing may be filled with liquid, preferably mineral oil or ethyl alcohol, to permit usage of the digital electronic camera at great depth.